BRIEFER ARTICLES.

NOTES ON NORTH AMERICAN GRASSES. VI.

SYNOPSIS OF TRIPSACUM.

TRIPSACUM L., Syst., Ed. 10, 2:1261. 1759.

A GENUS of grasses confined for the most part to North America. The type species is *T. dactyloides* L.

KEY TO SPECIES.

Staminate spikelets all sessile or nearly so, outer glume coriaceous; spikes single or 2- to 3-digitate. Section DACTYLOIDES.
- Blades 4 to 5^{cm} wide, pubescent on upper surface . . . *latifolium*
- Blades mostly less than 2^{cm} wide
  - Blades 1 to 3^{mm} wide, involute . . . . . *floridanum*
  - Blades 1 to 2^{cm} wide, flat
    - Sheaths glabrous, blades glabrous except sometimes along the midrib above . . . . . *dactyloides*
    - Sheaths more or less hispid, or sometimes nearly glabrous, blades hispid on upper surface *dactyloides hispidum*

Staminate spikelets with one of the pair sessile, the other pedicelled, outer glume membranaceous; pistillate spikes branched, forming a fascicle. Section FASCICULATA.
- Sheaths hispid . . . . . *pilosum*
- Sheaths glabrous except the lowermost, or hispid only at the throat
  - Blades 3^{cm} or more in width, glabrous . . . . *fasciculatum*
  - Blades 2^{cm} or less in width, pubescent on upper surface
    - 1.5 to 2^{cm} wide, flat or folded, culms robust . . *lanceolatum*
    - 5 to 10^{mm} wide, more or less involute, culms slender . . . . . *Lemmoni*

Tripsacum latifolium, n. sp.—Planta robusta, vaginis glabris vel apice pubescentibus, laminis amplis, ad 4.5^{cm} latis, 70^{cm} longis, planis, supra pubescentibus subtus scabris vel glabrescentibus, spiculis sterilibus geminis sessilibus, 3–4^{mm} longis, oblongis, obtusis vel breviter acutis.

Culm robust, 1^{cm} in diameter, glabrous; sheaths glabrous or pubescent towards apex; blades ample, as much as 70^{cm} long and 4.5^{cm}

wide, pubescent above, minutely papillate-scabrous or glabrescent beneath, scabrous-ciliate on the margin; ligule very short, scarcely 3^{mm} long, fimbriate; spikes 1 to 3, similar to *T. dactyloides* but more slender, pistillate section 2 to 3^{mm} wide, staminate spikelets sessile or nearly so, 3 to 4^{mm} long, outer glume coriaceous, oblong, rounded at apex, scabrous, ciliate on marginal keels, rather minutely striate with about ten nerves.

The type specimen was collected by *H. von Tuerckheim* at Cubilquitz, Dept. Alta Verapaz, Guatemala, alt. 350^{m}, Jan. 1902, no. 8333. The only other specimen I have seen was collected by *C. Thieme* at San Pedro Sula, Dept. Santa Barbara, Honduras, alt. 500^{m}, March 1887, no. 5595^{B}. Both specimens are in the National Herbarium (Herb. John Donnell Smith).

The species is well distinguished from the other species with sessile staminate spikelets by its broad pubescent leaves.

TRIPSACUM DACTYLOIDES (L.) L., Syst., Ed. 10, **2**:1261. 1759.—*Coix dactyloides* L., Sp. Pl. **2**:972. 1753.—Usually glabrous throughout except the upper surface of the blades along the midrib near the base. This and sometimes a considerable portion of the upper surface of the blades may be sparsely pilose. The specimens from Florida and along the Gulf Coast are usually pilose in this way, or occasionally the pubes cence may extend to the young sheaths of the branches. The more pubescent forms connect the species with the following subspecies, which occurs in Mexico. The terminal spikes are usually in digitate clusters of two to three, while the axillary spikes may be single. Sometimes, especially in Texas, the terminal spikes are also single (*T. dactyloides monostachyum*) (Willd.) Gray, Man. 616. 1848. *T. monostachyum* Willd., Sp. Pl. **4**:202. 1805. Type locality "Carolina meridionali."

Southern New England to Florida and Texas, mostly near the coast; but extending inland west to west Texas, and north to Nebraska, Iowa, southern Illinois, and eastern Tennessee.

If the spike is single the pistillate portion is cylindrical; if the spikes are two or three, the pistillate portions are flattened on the inner surfaces so that all together they form a cylinder, and the lower are more or less peduncled.

TRIPSACUM DACTYLOIDES **hispidum**, n. subsp.—Laminae supra hispidae; vaginae hispidae vel glabrescentes.

The staminate flowers are less chartaceous than is usual in *T. dactyloides*.

Mexico and southward. San Luis Potosi, rocky hills, Las Canoas,

Pringle 3811 (type); Jalisco, Rio Blanco, *Palmer* 509; City of Mexico, *Holway* 8; Lower California, El Taste, *Brandegee*, Nov. 1, 1902; Trinidad, Botanical Garden Herbarium 3303; Central Paraguay, *Morong* 675.

This form connects *T. dactyloides* with *T. lanceolatum*. In some specimens the upper spikelet of the staminate pair is somewhat pedicelled. *T. dactyloides* and possibly some of the other species may occur widely distributed in South America. Information on this point is desired.

TRIPSACUM FLORIDANUM Porter, Contr. Nat. Herb. **3**:6. 1892. PORTER'S herbarium name was published by Dr. VASEY in his monograph of the grasses of North America. Type locality "Florida (*A. P. Garber*) and Texas (*G. C. Nealley*);" duplicate type in National Herbarium. *T. dactyloides floridanum* Beal, Grasses **2**:19. 1896. There are no specimens of this species from Texas in the National Herbarium, nor are there any so labeled by Dr. VASEY; consequently the Texas locality given above is uncertain and is probably incorrect.

Our specimens are all from the vicinity of Miami, Florida, *Garber* 454, June 1877 (type); *Pollard & Collins* 272, April 1898; *Eaton* 530, Dec. 1903; *Hitchcock*, March 1903.

Distinguished from *T. dactyloides* by its smaller size and much narrower leaves.

TRIPSACUM FASCICULATUM Trin.; Ascherson, Bot. Zeit. **35**:521. 1877.—Well distinguished by its ample glabrous leaves, which are as much as 6.5^{cm} wide and 70^{cm} long, resembling leaves of Indian corn (*Zea mays* L.). Plant glabrous throughout; spikes branched, forming a fascicle; staminate portion slender and more or less flexuous, the spikelets 5 to 6 ^{mm} long and broadest near the top.

The name first appears in the second edition of STEUDEL'S Nomenclator **2**:712, as *Tripsacum* "fasciculatum Trin. Mpt. Mexico. *T. dactyloides* Schlecht. in Linnaea VI." The latter name is a *nomen nudum*, as is also *T. fasciculatum* Trin. in Steud. Gram. **1**:363, and in Ruprecht, Bull. Acad. Brux. **9**:243. The first description appears to be by ASCHERSON[1] in 1877, Bot. Zeit. **35**:525, where a specimen from "Pr. Hacienda de la Laguna (Schiede)" is designated as the type. FOURNIER, Mex. Gram. 69. 1881, includes the name without description and cites the following specimens: Hacienda de la Laguna (*Schiede* 947); Orizaba

[1] ASCHERSON had previously mentioned the species and given a brief description as follows: "Diese Art besitzt Blätter von der Breite der Maisblätter, und die zahlreichen, schlaffen, männlichen Inflorescenzzweige, deren Aehrchen kleiner als bei *T. dactyloides* sind, erinnern ebenfalls an *Euchlaena*." (Verh. bot. Ver. Pr. Brandenb. **17**:79. 1875, in a footnote to an article on *Euchlaena mexicana*.)

(*Bourgeau* 3138); Mirador (*Liebmann* 549); Zacuapan pr. Jalapa (*Galeotti* 5796); Arumbaro (*Galeotti* 5844). The BOURGEAU and LIEBMANN specimens are in the National Herbarium; also *Brade* 16174, from Costa Rica.

TRIPSACUM LANCEOLATUM Rupr.; Fournier, Mex. Gram. 68. 1881.—Leaves mostly 1 to 2^{cm} broad, pubescent on the upper surface; staminate flowers 7 to 9^{mm} long, spindle-shaped, often rather abruptly narrowed above the middle.

Mexico. Sonora, Guadaloupe Cañon, International Boundary Commission, 2035; Durango, *Palmer* 537; Oajaca, Villa alta, *Liebmann* 547; Lower California, Sierra de San Francisquito, *Brandegee* 6, Sept. 1899; Jalisco, between Huejuquilla and Mesquitec, *Rose* 3570. In addition to these specimens in the National Herbarium, FOURNIER gives the following: Inter Victoria et Rio Blanco (*Karwinsky*); Borrego prope Orizaba (*Botteri* 1213 in herb. VAN HEURCK); Mirador (*Schaffner*); Tacubaya (*Schaffner* 41 in herb. FRANQUEVILLE); Secus Amnem in herbosis pr. Pedregal (*Bourgeau* 444); Aguas Calientes (*Hartweg* 252). *Liebmann* 547 is also cited by FOURNIER and it is upon this specimen that I have based my identification of the species. FOURNIER's description does not apply in all respects to the plants which I have included under this species. He states that the culms are pilose, which is not true of any of the specimens I have seen. Neither are both staminate spikelets pedicelled, as he describes.

The name first appears in Plant. Hartw. Addenda, p. 347. In the body of the work (p. 28) no. 252 is listed without description as *T. dactyloides* "in saxosis, Aguas Calientes." In the addenda this is corrected as follows: "n. 252 est species a Tripsaco dactyloide distincta, T. lanceolata, Ruppr. ex cl. Rupprecht in Litt." FOURNIER (*l. c.*) cites *T. lanceolatum* Rupr. in Benth. Pl. Hartw. 247. Under the circumstances I think HARTWEG'S no. 252 from Aguas Calientes should be considered as the type of *T. lanceolatum* rather than KARWINSKY'S specimen, the first cited by FOURNIER.

FOURNIER cites as a synonym of this "*T. acutiflorum* Rupr. mss. in herb. Petrop." Under the rules of the recent code *T. acutiflorum* was not published. FOURNIER (*l. c.* 69) also mentions without description, var. *β monostachyum* from San Luis Potosi (*Virta* 1447). I have not seen this specimen.

TRIPSACUM PILOSUM Scribn. & Merr., Div. Agrost. Bull. 24:6. 1901. —Type locality Mexico. "Collected on the road between Colotlan and

Bolaños, State of Jalisco, 2841 *J. N. Rose*, September 7, 1897." Specimen in National Herbarium.

The preceding species, together with this and the following, form a rather closely connected series. The type of *T. pilosum* is distinguished by the strongly papillate-hirsute sheaths, and the blades pubescent upon both surfaces, but these characters are much less marked in some of the specimens which agree with the type in other particulars.

I have referred here the following specimens: Jalisco, Rio Blanco, *Palmer* 508; Cañon near Guadalajara, *Pringle* 2623, and hills near Guadalajara, *Pringle* 2611; San Luis Potosi, limestone ledges, Tinamel, *Pringle* 3993; and San Jose Pass, *Pringle* 3447.

TRIPSACUM LEMMONI Vasey, Contr. Nat. Herb. **3**:6. 1892. Type locality, "Huachuca Mountains, Arizona (*J. G. Lemmon*)." Type specimen in National Herbarium. *T. dactyloides Lemmoni* (Vasey) Beal Grasses **2**:19. 1896.

Plant glabrous throughout except the lowermost sheaths, which are more or less hispid. The leaves are long and narrow, 5 to 10^{mm} wide, and in herbarium specimens inrolled at the margins.

In addition to the type specimen I have included two Mexican specimens, Jaral, Gebirgsthäler, *Schumann* 1718, and Jalisco, Mountains near Guadalajara, *Pringle* 2610. These two specimens have the spikes digitate instead of fascicled as in Arizona specimen, but the latter has the lateral spikes in ones or twos.—A. S. HITCHCOCK, *U. S. Dept. Agric., Washington, D. C.*